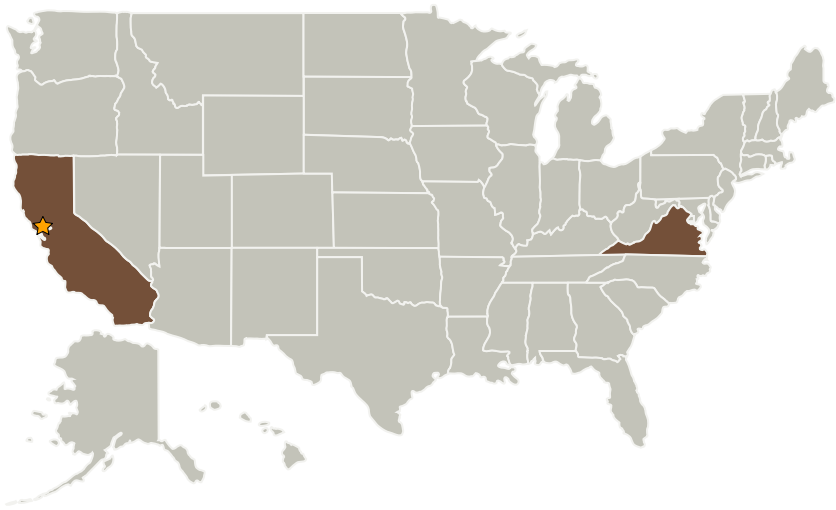
Optical Real-Time Space Radiation Monitor, Phase I

Completed Technology Project (2007 - 2007)

Project Introduction

Real-time dosimetry is needed to provide immediate feedback, so astronauts can minimize their exposure to ionizing radiation during periods of high solar activity. Optical radiation monitors provide continuous detection of e- and n. Radiation induced changes in the optical properties of each sensor's active material are interpreted via software to estimate the dose from each type of particle. Compared to traditional scintillation detectors, Luna's radiation monitors are more compact and better able to identify particle types. Luna's unique sensor design and detection capabilities enable estimation of the energy and direction of the most energetic particles. Advanced optical radiation monitors are also less prone to the radiation induced degradation that plagues diode dosimeters.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Luna Innovations, Inc.	Supporting Organization	Industry	Roanoke, Virginia

Optical Real-Time Space Radiation Monitor, Phase I

Table of Contents

Project Introduction 1
Primary U.S. Work Locations and Key Partners 1
Organizational Responsibility 1
Project Management 2
Technology Areas 2

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Optical Real-Time Space Radiation Monitor, Phase I

Completed Technology Project (2007 - 2007)

Primary U.S. Work Locations	
California	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.5 Radiation
    - TX06.5.5 Monitoring Technology